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P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
ELLIOTT IV, BENJAMIN H	
ART UNIT	PAPER NUMBER
2474	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,827	HABETHA ET AL.	
	Examiner	Art Unit	
	BENJAMIN ELLIOTT	2474	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-19 have been examined. Claims 1, 3, 6, and 11 have been amended. Claim 2 has been previously canceled. Claims 1 and 3-19 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/13/2010 has been entered.

Response to Amendment

3. In response to the amendments received at the Office on 7/13/2010, the rejection of claims 1-10 under 35 U.S.C. § 112, 2nd paragraph have been withdrawn.

Response to Arguments

4. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 3-10, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 7,321,762 B2 to Hoeben (hereinafter

"Hoeben"), in view of United States Patent 4,704,716 to Bowers et al. (hereinafter "Bowers"), and IEEE Standard for Information Technology 802.11 (1999) "Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: High-speed Physical Layer in the 5GHz Band" (hereinafter "802.11-1999").

Regarding Claim 1, Hoeben discloses **a method for accessing a medium by a multi-channel device** (Hoeben: Figure 2, Col.3, lines 43-49; enhanced access point), **in which the medium comprises a transmission system having at least two channels** (Hoeben: Figure 2; 203-1 through 203-K), **the method comprising:**

transmitting a message on each channel (Hoeben: Col. 6, lines 13-29. Reservation messages (RTS) are sent sequentially across each of the channels. Col. 6, lines 20-28 and Col. 10, lines 46-53; control section inherent to CTS and RTS) **that are an object of channel grouping to reserve the at least two channels** (Hoeben: Col. 3, lines 31-39. High-bandwidth signaling covers at least two shared channels. See Also Figure 5. Wide bandwidth signal covers channels 203-1 and 203-2. Col. 6, lines 13-29; RTS messages.), **such that a single channel device detects the preamble and header and performs a process according to control information included in the control section** (Hoeben: Col. 6, lines 20-27. Legacy stations are able to recognize the control messages.).

Hoeben does not expressly disclose determining of the two channels which are in an idle or back-off.

Bowers establishes a wideband channel by combining a group of narrowband time multiplexed channels having a total bandwidth at least equal to the desired wideband channel (Bowers: Col. 2, lines 4-18). Bowers discloses **determining on each channel of the at least two channels that are an object of channel grouping whether each channel is one of either idle or that a back-off by the multi-channel device is underway** (Bowers: Col. 8, line 61 through Col. 9, line 29; a customer first selects a bandwidth option. Processor then determines the state of each channel in the group to determine if each channel (which channel) is in the idle state.). Bowers further discloses **transmitting a message including a control section on the channel determined to be idle** to the customer interface denying access to the channel because the channel is not idling (Bowers: Col. 9, lines 3-7).

Hoeben in view of Bowers does not expressly disclose preambles and headers.

The 802.11-1999 standard discloses the Physical Layer Convergence Protocol (PLCP) wherein the use of PLCP defines a mapping of the PHY sublayer service data units (PSDU) into a format for relating data information and management information between two or more stations in a network (802.11-1999 section 17.1.1). The PLCP comprises a preamble field (802.11-1999 section 17.3.3) and a header field (802.11-1999 section 17.3.11). The PLCP preamble and header fields are followed by the SIGNAL (control) field and DATA field (802.11-1999 section 17.3.3). The SIGNAL field contains information regarding the transmission rate (802.11-1999).

Providing the method of Hoeben and Bowers with necessary preambles and headers would have been obvious to one having ordinary skill in the art, in view of the teachings of 802.11-1999, since all claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods (preambles and headers followed by control sections) with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one having ordinary skill in the art at the time of the invention, i.e., one skilled in the art would have applied the necessary standards set forth in IEEE Standard for Information Technology 802.11 (1999) "Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: High-speed Physical Layer in the 5GHz Band" for allowing terminals to distinguish data packets from control packets.

Regarding Claim 3, Hoeben in view of Bowers, and further in view of 802.11-1999 discloses **the method of claim 1, wherein the message is one of a request-to-send (RTS), clear-to-send (CTS), or acknowledgement (ACK) type** (Hoeben: Col. 6, lines 20-28 and Col. 10, lines 46-53; control section inherent to CTS and RTS).

Regarding Claim 4, Hoeben in view of Bowers, and further in view of 802.11-1999 discloses **the method of claim 1, wherein the multi-channel device operates in compliance with IEEE 802.11 standard** (Hoeben: Col. 2, lines 34-39) **and a medium access control (MAC) protocol** (Hoeben: Col. 2, lines 20-25), **the method further comprises repeating information belonging**

to the MAC protocol on the at least two channels (Hoeben: Col. 3, lines 31-39 and Figures 5-8).

Regarding Claim 5, Hoeben in view of Bowers, and further in view of 802.11-1999 discloses **the method of claim 1, wherein access to the medium takes place under IEEE 802.11 standard** (Hoeben: Col. 2, lines 34-39), **the method further comprising transmitting RTS, CTS** (Hoeben: Col. 6, lines 20-28 and Col. 10, lines 46-53; control section inherent to CTS and RTS) **and ACK control frames** (Hoeben: Col. 10, lines 57-61) **on the at least two channels** (Hoeben: Col. 6, lines 13-29. Reservation messages (RTS) are sent sequentially across each of the channels.), **and setting network allocation vectors (NAVs), by single channel devices** (Hoeben: Col. 6, lines 41-44), **based on information in the RTS/CTS control frames data packets** (Hoeben: Col. 10, lines 49-52).

Regarding Claim 6, Hoeben discloses **a method for accessing a medium by a multi-channel device** (Hoeben: Figure 2, Col.3, lines 43-49; enhanced access point), **the medium including a transmission system having at least two channels that the multi-channel device intends to call upon for transmission** (Hoeben: Figure 2; 203-1 through 203-K), **the method comprising:**

scanning, by the multi-channel device, the at least two channels to be called upon for transmission (Hoeben: Col. 10, lines 31-32 and Figure 8. Station 202-j monitors channel 203-1.), **such that a single channel device**

performs a process according to control information included in the control section (Hoeben: Col. 6, lines 20-27. Legacy stations are able to recognize the control messages.), **further scanning the other channels to be called upon for transmission** (Hoeben: Col. 10, lines 31-32 and Figure 8. Station 202-j also monitors channels 203-2.).

Hoeben does not expressly disclose determining of the two channels which are in an idle or back-off.

Bowers establishes a wideband channel by combining a group of narrowband time multiplexed channels having a total bandwidth at least equal to the desired wideband channel (Bowers: Col. 2, lines 4-18). Bowers discloses **determining that a single one of the scanned channels is one of either idle or that a back-off by the multi-channel device is underway on the channel, blocking the single channel determined to be one of either idle or having the back-off underway to other devices by the multi-channel device** (Bowers: Col. 8, line 61 through Col. 9, line 29; a customer first selects a bandwidth option. Processor then determines the state of each channel in the group to determine if each channel (which channel) is in the idle state.). Bowers further discloses **transmitting a message including a control section on the channel determined to be idle** to the customer interface denying access to the channel because the channel is not idling (Bowers: Col. 9, lines 3-7). Bowers also discloses **blocking or reserving the other channels on determining that the channel concerned is one of either idle or that a back-off is underway by transmitting another message on the channel concerned** (Bowers: Col.

11, lines 31-59; channels are monitored for disconnect message to return a reserved channel to an idle state to further reserve the channel for other requests from terminals.).

Hoeben in view of Bowers does not expressly disclose preambles and headers.

The 802.11-1999 standard discloses the Physical Layer Convergence Protocol (PLCP) wherein the use of PLCP defines a mapping of the PHY sublayer service data units (PSDU) into a format for relating data information and management information between two or more stations in a network (802.11-1999 section 17.1.1). The PLCP comprises a preamble field (802.11-1999 section 17.3.3) and a header field (802.11-1999 section 17.3.11). The PLCP preamble and header fields are followed by the SIGNAL (control) field and DATA field (802.11-1999 section 17.3.3). The SIGNAL field contains information regarding the transmission rate (802.11-1999).

Providing the method of Hoeben and Bowers with necessary preambles and headers would have been obvious to one having ordinary skill in the art, in view of the teachings of 802.11-1999, since all claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods (preambles and headers followed by control sections) with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one having ordinary skill in the art at the time of the invention, i.e., one skilled in the art would have applied the necessary standards set forth in IEEE Standard for Information Technology

802.11 (1999) "Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: High-speed Physical Layer in the 5GHz Band" for allowing terminals to distinguish data packets from control packets.

Regarding Claim 7, Hoeben in view of Bowers, and further in view of 802.11-1999 discloses **the method of claim 6, further comprising: blocking the channel by the multi-channel device** (Hoeben: Figure 2, enhanced access point) **and a receiving device** (Hoeben: Figure 2, enhanced station), **each of the devices emitting the message** (Hoeben: Col. 4, lines 40-45 and Col. 5, lines 49-54).

Regarding Claim 8, Hoeben in view of Bowers, and further in view of 802.11-1999 discloses **the method of claim 7, wherein the message is implemented in the form of RTS and CTS frames** (Hoeben: Col. 6, lines 20-28 and Col. 10, lines 46-53; control section inherent to CTS and RTS), **the method further comprising:**
transmitting an RTS frame on a free channel by the multi-channel device, so that devices in the area surrounding the multi-channel device that is transmitting will set their network allocation vectors (NAVs) (Hoeben: Col. 6, lines 41-44), **and transmitting a CTS frame on the free channel by the receiving device, so that stations in the area surrounding the receiving station will set their NAVs** (Hoeben: Col. 10, lines 46-53).

Regarding Claim 9, Hoeben in view of Bowers, and further in view of 802.11-1999 discloses **the method of claim 7, further comprising transmitting with channel grouping, by the multi-channel device, on all**

channels that it has previously blocked (Hoeben: Col. 10, lines 31-42; During the reservation duration, stations refrain from transmitting. Col. 10, lines 43-45. The station transmits over the two stations.).

Regarding Claim 10, Hoeben in view of Bowers, and further in view of 802.11-1999 discloses **the method of claim 6, further comprising blocking a channel by starting the transmission by the multi-channel station on the single channel** (Hoeben: Col. 10, lines 39-42. Stations refrain from transmitting on the channel during reservation duration.), **wherein the transmission can be made with or without an RTS-CTS mechanism** (802.11-1999. Operating on the earlier standard, RTS/CTS is not disclosed. However, transmission is still operable (section 17.2.2.1).

Providing the method of Hoeben and Bowers with necessary elements to transmit messages would have been obvious to one having ordinary skill in the art, in view of the teachings of 802.11-1999, since all claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods (transmission of messages) with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one having ordinary skill in the art at the time of the invention, i.e., one skilled in the art would have applied the necessary standards set forth in IEEE Standard for Information Technology 802.11 (1999) "Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: High-speed Physical Layer in the 5GHz Band" for sequenced receipt of control messages.

Regarding Claim 17, Hoeben in view of Bowers, and further in view of 802.11-1999 discloses **a multi-channel device for accessing a medium** (Hoeben: Figure 2, enhanced access point), **the medium comprises a transmission system having at least two channels, the multi- channel device performing the method of claim 1 for accessing the medium** (See rejection, Claim 1.).

Regarding Claim 18, Hoeben in view of Bowers, and further in view of 802.11-1999 discloses **a wireless network comprising a transmission system having at least two channels** (Hoeben: Figure 2; 203-1 through 203-K) **and at least one multi-channel device as claimed in claim 17** (Hoeben: Col. 2, lines 11-14; Figure 2, enhanced station, and rejections for Claim 1 and 17).

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeben, in view of Bowers and 802.11-1999, and further in view of US Patent 7,415,046 B2 to Beckman et al. (hereinafter "Beckman").

Regarding Claim 16, Hoeben, in view of Bowers, and further in view of 802.11-1999 discloses **the method of claim 1,** but is silent on the transmission system using UMTS (Universal Mobile Telecommunication System).

However, Beckman discloses **employing the Standard Universal Mobile Telecommunication System (UMTS)** (Beckman: Col. 9, lines 61-63. Data is transmitted through channels over an air interface using UMTS.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hoeben, Bowers, and 802.11-1999 to include transmitting information based on UMTS as taught by Beckman to easily establish a point-to-point connection between layer 1 and layer 2 devices, as UMTS utilizes the air interface comprising layer 1 and layer 2 (of the OSI model). This recognizes the use of UMTS along side the medium access control (MAC) of the claimed invention (Beckman: Col. 1, lines 30-58).

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeben, in view of Bowers and 802.11-1999, and further in view of United States Patent 7,272,156 B2 to Shoemake et al (hereinafter "Shoemake").

Regarding Claim 19, Hoeben in view of 802.11-1999 **discloses the method as claimed in claim 1**, but does not expressly define that the preamble and header are repeated in parallel over the plurality of channels.

Shoemake discloses a wireless station capable of calculating multiple decisions without the need of additional hardware (Shoemake: Col. 1, lines 37-42). The device is located in an environment of 802.11(e) (Shoemake: Col. 2, lines 65-67). Shoemake discloses the utilization of PLCP headers and preambles transmitted in frames based on the 802.11(e) standard (Shoemake: Col. 2, lines 2-5). Shoemake discloses **the preamble and header (PR) are repeated in parallel on the at least two channels** (Shoemake: Col. 2, lines 13-17. The preamble and header portions of the PLCP frame are transmitted in parallel

along with calculations of parameters as needed for the MPDU (MAC protocol data unit).).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Hoeben, Bowers, and 802.11-1999 to transmit preambles and headers in parallel on a plurality of channels as disclosed by Shoemake. This benefits the method by reducing the amount of calculations of transmission parameters before the actual transmission (Shoemake: Col. 1, lines 17-33).

11. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeben, in view of Bowers and 802.11-1999, and further in view of United States Patent 7,289,529 B2 to Sherman (hereinafter "Sherman").

Regarding Claim 11, Hoeben discloses **a method for accessing a medium by a multi-channel device** (Hoeben: Figure 2, Col.3, lines 43-49; enhanced access point), **the medium comprises a transmission system having at least two channels that the multi-channel device intends to call upon for transmission** (Hoeben: Figure 2; 203-1 through 203-K), **wherein a message to be transmitted on the medium comprises at least one of a succeeding control section or data section** (Hoeben: Col. 6, lines 20-28 and Col. 10, lines 46-53; control section inherent to CTS and RTS), **the method comprising:**

scanning the at least two channels to be called upon for transmission (Hoeben: Col. 10, lines 31-32 and Figure 8. Station 202-j monitors channel 203-

1.), **repeating the message in on all channels** (Hoeben: Col. 6, lines 13-29. Reservation messages (RTS) are sent sequentially across each of the channels. Col. 6, lines 20-28 and Col. 10, lines 46-53; control section inherent to CTS and RTS. Also see Figure 5 for reservation message 202 on channels 203-1 and 203-2. Col. 3, lines 31-39. High-bandwidth signaling covers at least two shared channels. See Also Figure 5. Wide bandwidth signal covers channels 203-1 and 203-2.).

Hoeben does not expressly disclose determining idle and back-off states.

Bowers establishes a wideband channel by combining a group of narrowband time multiplexed channels having a total bandwidth at least equal to the desired wideband channel (Bowers: Col. 2, lines 4-18). Bowers discloses **determining on each channel of the at least two channels that are an object of channel grouping whether each channel is one of either idle or that a back-off by the multi-channel device is underway** (Bowers: Col. 8, line 61 through Col. 9, line 29; a customer first selects a bandwidth option. Processor then determines the state of each channel in the group to determine if each channel (which channel) is in the idle state.). Bowers further discloses **transmitting a message including a control section on the channel determined to be idle** to the customer interface denying access to the channel because the channel is not idling (Bowers: Col. 9, lines 3-7).

The 802.11-1999 standard discloses the Physical Layer Convergence Protocol (PLCP) wherein the use of PLCP defines a mapping of the PHY sublayer service data units (PSDU) into a format for relating data information and

management information between two or more stations in a network (802.11-1999 section 17.1.1). The PLCP comprises a preamble field (802.11-1999 section 17.3.3) and a header field (802.11-1999 section 17.3.11). The PLCP preamble and header fields are followed by the SIGNAL (control) field and DATA field (802.11-1999 section 17.3.3). The SIGNAL field contains information regarding the transmission rate (802.11-1999).

Providing the method of Hoeben with necessary preambles and headers would have been obvious to one having ordinary skill in the art, in view of the teachings of 802.11-1999, since all claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods (preambles and headers followed by control sections) with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one having ordinary skill in the art at the time of the invention, i.e., one skilled in the art would have applied the necessary standards set forth in IEEE Standard for Information Technology 802.11 (1999) "Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: High-speed Physical Layer in the 5GHz Band" for allowing terminals to distinguish data packets from control packets.

Hoeben, in view of Bowers, and further in view of 802.11-1999 does not expressly disclose reserving or blocking by a third device.

However, Sherman discloses **reserving or blocking, by a third device independent of a transmitter and receiver of the message, the channels in the channel group for the multi-channel device that intends to transmit,**

such that a single channel device detects the preamble and header and performs a waiting process (Sherman: Col. 6, lines 21-40. A point coordination function or hybrid coordination function work as part of the reserve protocol for contending transmissions to gain access to the wireless medium (by way of the CSMA protocol).).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hoeben and 802.11-1999 to include a third device for reserving channels as taught by Sherman to optimize performance by the hybrid coordinator for efficient use of the medium (Sherman: Col. 2, lines 14-20).

Regarding Claim 12, Hoeben, in view of Bowers, in view of 802.11-1999, and further in view of Sherman discloses **the method of claim 11, further comprising:**

coordinating, by the third device, access to the medium for a plurality of channels (Sherman: Col. 4, lines 43-44. The PCF (point coordination function) makes use of PIFS (PCF interframe space) to seize and maintain control of the medium.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hoeben, Bowers, and 802.11-1999 to include a third device for reserving channels as taught by Sherman to optimize performance by the hybrid coordinator for efficient use of the medium (Sherman: Col. 2, lines 14-20).

Regarding Claim 13, Hoeben, in view of Bowers, in view of 802.11-1999, and further in view of Sherman discloses **the method of claim 11, wherein in the event of individual channels in the channel group not becoming free simultaneously, the third device causes, alternatively, blocking one channel or individual channels until such time as all the channels in the channel group have become free** (Sherman: Col. 6, lines 21-40. The superframe of the control contention/resource reservation protocol comprises both a contention period and a contention-free period on all channels (Figure 2A in conjunction with Figure 1, multiple channels).), or assigning a channel that has become free immediately to the multi- channel device that intends to transmit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hoeben, Bowers, and 802.11-1999 to include a third device for reserving channels as taught by Sherman to optimize performance by the hybrid coordinator for efficient use of the medium (Sherman: Col. 2, lines 14-20).

Regarding Claim 14, Hoeben, in view of Bowers, in view of 802.11-1999, and further in view of Sherman discloses **the method of claim 11, wherein the third device is a hybrid coordinator or point coordinator** (Sherman: Col. 6, lines 21-40. A point coordination function or hybrid coordination function work as part of the reserve protocol for contending transmissions to gain access to the wireless medium (by way of the CSMA protocol).), **the method performing the medium access under standard IEEE 802.11** (Sherman: Abstract and Col. 4, lines 3-13)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hoeben, Bowers, and 802.11-1999 to include a third device for reserving channels as taught by Sherman to optimize performance by the hybrid coordinator for efficient use of the medium (Sherman: Col. 2, lines 14-20).

12. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeben and 802.11-1999, in view of Sherman, and further in view of United States Patent Application Publication 2005/0111402 A1 to Sawada et al (hereinafter "Sawada").

Regarding Claim 15, Hoeben, in view of Bowers, in view of 802.11-1999, and further in view of Sherman discloses **the method of claim 14 further comprising:**

transmitting by the point coordinator or hybrid coordinator, beacons on all the channels (Sherman: Col. 4, lines 57-59).

Sherman does not explicitly recite the beacons are sent in parallel.

Sawada discloses sending the beacons in parallel over a plurality of channels (Sawada:[0009]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Hoeben, in view of Bowers, in view of 802.11-1999, and further in view of Sherman to include sending beacons in parallel as taught by Sawada. This benefits the method by allowing registration

and authentication of two or more communication stations at the same time in a master/slave environment (Sawada: [0010]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN ELLIOTT whose telephone number is (571)270-7163. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2474

BENJAMIN ELLIOTT
Examiner
Art Unit 2474